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AND

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OUR plate illustrates the larva, chrysalis and imago of *Protoparce cingulata* Fab. The original drawing was made from life by the late T. R. Peale. This moth expands a little over four inches. It is readily recognized by the lateral rows of dark pink spots on the abdomen and the pink color on the inferior wings.

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LARVA HUNTING IN WINTER.

By RICHARD E. KUNZE, M.D., New York.

(Continued from page 197, Vol. III, No. 8.)

February 14th had another larvæ hunt in the Cat-tail Flags of our suburbs on the Harlem River flats. Mr. J. Mohns accompanied me and about three dozen larvæ were found. In some stems of *Typha latifolia* we found both the empty pupa-case of a brood, as well as the full grown larva of the second as I am led to believe. In three or four different stems we found evidence of such. In quite a number of instances found two larvæ in one stem. In the "American Naturalist" for 1883, the statement is made by Dr. C. V. Riley that there is one annual brood of *Arzama obliquata*, whereas Dr. Kellicott found two such in one season.

February 28th I went over to Long Island on a biting cold day for the last hunt of the season. The ground of the swamp was

frozen over solid in all but well-protected parts. Mr. L. Kohl went with me, a staunch collector 'midst snow squalls, of which we had several and equally tireless when surrounded by clouds of mosquitoes. We found sixty larvæ, of which we unconsciously slaughtered about eighteen in the following manner. The spot selected is very miry and surrounded by shrubbery, but inaccessible, except on coldest days of year. There we struck a bonanza. We did not find many larvæ above frost line, and I suggested to my friend, who carried a mechanic's jack-knife, to cut reeds as far as possible below frozen parts. By so doing we found many more, but mutilated about every third larva discovered. There was from three to five inches of frozen muck, through which we could not cut, and in this layer of frigid soil found two-thirds of all specimens. The stems were frozen solid below water-line and a thin coating of ice surrounded the Winter quarters of the larvæ. The interstitial part of stalks below frost line surrounding galleries was filled with icy particles and hard to cut. I found repeatedly both larvæ and empty pupa-cases in one and the same stem, thus verifying Dr. Kellicott's statement that *A. obliquata* is double-brooded.

At the end of the first week in May, some of these larvæ transformed into pupæ; others had turned black in color previous to such transformation. I kept each larva in a section of the *Typha* stem, placed into a jar containing damp moss. A few that ventured out of their Winter quarters and buried in the moss, died during a cold snap subsequently. Of others I had on previous occasions collected later in April, after cessation of heavy frosts, none died with me, although the larvæ were removed from the stems when found and placed into damp moss until the last two transformations were completed.

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ON ARGYNNIS ASTARTE Doub.-Hew. AND OTHER MATTERS.

By Dr. HERMAN STRECKER, Reading, Pa.

Argynnis astarte Doub.-Hew. ("Genera Diurnal Lepidoptera," t. 23, fig. 5), which has only been known, since its discovery in 1848, by one of Lord Derby's collectors in British Columbia, by the type in the British Museum, and the figure above cited, has recently been rediscovered by Mr. Thomas E. Bean, who took

examples of both sexes in the Rocky Mountains on the Canadian Pacific Railroad, in the Province of Alberta; from one of these, a ♂, Mr. W. H. Edwards described his *Argynnis victoria* in "Can. Ent." vol. xxiii, p. 198.

The figure of Doub.-Hew. represents the upper side of apparently the ♀, and has been a puzzle to Lepidopterists as to what it could be. It comes nearer to the European *Hecate* and *Ino*, though exceeding them in size, than to any American species. The rediscovery of this remarkable insect is of the greatest interest. Mr. Bean, to whom I am indebted for my example, states that it is very rare, the Summer being so short in the region in which it occurs that some seasons it does not appear at all, there not being time sufficient, save under certain favorable circumstances, between the two Winters for it to develop and go through all the stages.

The literature regarding *astarte* is meagre; there is no description in the "Gen. Diur. Lep." merely the figure.

In "Proc. Ent. Soc. Phil." i, p. 221, W. H. Edwards confounds it with a form or species later described by myself as *Argynnis arge* in "Syn. Cat. Macrolep." p. 114, No. 210.

In "Proc. Ent. Soc. Phil." iii, p. 435, the same author in "Notes on the Argynnides of California" has "No. 4. Arg. astarte Doubleday. *Egleis*, Boisduval in lit. This species Dr. Behr subsequently called *Montivago*, a name which he transfers to the following:

I have the example "No. 4" which Dr. Behr sent me long since, with the types of all his Argynnidæ published in the "Jour. of the Lyc. Nat. Hist. of San Francisco," which is the original of the description of *Argynnis arge* above alluded to.

In "Trans. Ent. Soc." London, 1889, part iv, pp. 535–575, is "A Revision of the Genus Argynnis," by Henry J. Elwes, which is the best thing by far yet published on the Argynnidæ generally; the author states the type is in the British Museum, that it was discovered many years ago in British Columbia, probably in the Cascade Mountains, that it seems to have been overlooked in both Strecker's and Edwards' Catalogues, probably because the locality is incorrectly given in Kirby's as Jamaica; further, that it is distinct from any North American specimens and most nearly allied to *Amphilochus*.

Everything pertaining to the Argynnides is of interest, from

an example of *Argynnis hanningtoni*, a species described by H. J. Elwes in foregoing paper p. 558, from Mt. Kilimanjaro, East Africa, I find it is closely allied to the Chilian *Argynnis lathonioides* and *modesta*, and that its position in the general collection would doubtless be between those species and *Argynnis lathonia*, the only European species to which it has any affinity.

Recently in "Science" there appeared a few lines on the nomenclature question, in which Prof. G. H. French upholds the useing of a capital in commencing the specific name of an insect. There is nothing particularly new in this course. Herbst and Jablonsky adopted it in "Natursyst. der Insecten," 1783–1804; Hübner, in "Verz. bek. Schmett." 1816; Boisduval, in "Spec. Gen. Lep." 1836; Horsfield, in "Descrip. Cat. Lep." 1828–29; Hewitson, in "Exot. Butt." 1856–76; Trimen, in "Rhop. Afr. Austr." 1862; the Felders in their various works, also Möschler, Staudinger in his great classical work, the "Cat. Lep. Eur. Faun."

From childhood I never dreamed of doing otherwise, and always adhered to it in my writings when the "Lep. Rhop.-Het." and "Syn. Cat. Macrolep." were published. I was adversely criticised on this point with few exceptions by the American lepidopterists, but later others have pursued the same course, and it is becoming now as general in this country as it has long been in Europe.

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ELEMENTARY ENTOMOLOGY.

LEPIDOPTERA–HETEROCERA (Moths).

By Prof. JOHN B. SMITH, New Brunswick, N. J.

The Liparidæ or Dasychiræ, as they are called in Mr. Grote's lists contain divergent material, our American forms considered. *Orgyia* and *Lagoa* have venation of entirely different types and must be separated into distinct families. *Lagoa* is very much more nearly related to the Limacodidæ than to *Orgyia*. Excluding *Lagoa*, and perhaps *Carama*, which I have not at hand for examination at present, the Liparidæ contain broad winged forms with retracted head, short palpi, rudimentary tongue and broadly pectinated male antennæ. In the primaries there is one, in the

secondaries there are two internal or free veins, not forked at base; veins 3, 4 and 5, in both wings, are rather close together, 5 not nearly approaching the middle line between 4 and 6. In all the specimens examined by me, there is a distinct accessory cell in the primaries. In the genus *Orgyia* the female is wingless, with feebly developed head and thorax, but enormously distended abdomen. She never moves from the cocoon inclosing the pupa from which she has emerged, and the eggs are laid in a white mass on its surface. In the other American genera the females have developed wings and are larger than the males. The caterpillar of *O. leucostigma*, distressingly common in many eastern cities, will serve as a fair type of the larva of this family, excluding, as before, *Lagoa* and its more immediate allies.

In *Lagoa*, for which Dr. Packard has suggested the term *Lagoidæ*, we have, as has been indicated, an approach to the *Limacodid*, or more typical *Bombyx* type, whereas *Orgyia* approaches the Noctuidæ very closely indeed—so closely that it would be almost impossible to distinguish some broad winged noctuids by venation alone. *Lagoa* has a much heavier body with comparatively smaller wings than *Orgyia;* the vestiture is more loose and divergent, and the species have a "fluffy" appearance. In the female there is a massive tuft of scaly hair at the tip of the abdomen, giving it a swollen, obtuse appearance. The primaries have one simple internal vein; 4 and 5 are rather close together from the end of the median vein, and 6 is from the middle of the cross-vein. closing the cell. Numbers 7, 8 and 9 are from a single stalk arising with 10 from the end of the subcostal. The cross-vein closing the cell is inwardly angulated and sends in through it a very distinct fold, feebly dividing the cell. The secondaries have two free internal veins; 4, 5, 6 and 7 are from the end of the median cell, 4 and 7 at the lower and upper angles; while 5 and 6 are from the cross-vein at nearly equal distances from each other and from 4 and 7 respectively. From the middle of the cross-vein, a very distinct fold, rising to the dignity of a feeble vein, runs inwardly, dividing the median cell. There is no free costal vein, but just before the end of the cell the subcostal sends off a branch—vein 8—to the outer margin before the apex.

The Limacodidæ are moderate or small-sized forms, with usually rather plump bodies, retracted head, obsolete tongue and

lengthily pectinated male antennæ. The vestiture in the typical genus is dense and hairy, rather than scaly, and the legs are also very densely clothed. The primaries have two free internal veins; 4 and 5 are rather close together from the end of the median; 6 is from near the middle of the cross-vein; 7, 8 and 9 are stalked, and from the same point with 10, at the end of the subcostal. A very distinct fold divides the median cell. The secondaries have two fairly distinct free, internal veins, and often a distinct additional fold. Vein 4 is from the end of the median and 5 is from the cross-vein, about as far from 4 as the latter is from 3; 6 and 7 are from a long stalk at the end of the subcostal, the costal arising out of the latter some little distance from base. A distinct fold divides the median cell.

The above description is drawn from a specimen of *Parasa*, and applies in all essentials to *Limacodes*, *Phobetron*, *Isa*, *Packardia*, and probably also to all the other genera referred to the family. The characters are quite distinctive, and the family is as distinct in its larval characteristics. Almost all collectors who have collected caterpillars know the odd shaped, slug-like larvæ of the Limacodidæ, and if they have handled them with any freedom they have discovered in many of them very decided urticating properties. Most of these larvæ have no very distinct abdominal or prolegs, using the whole of the ventral surface for purposes of locomotion. They make a very dense, oval, or sometimes nearly globular, parchment-like cocoon, in which the larva usually rests without change through the Winter, pupating shortly before emerging as an adult in Summer.

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A NEW PAMPHILA.

By Henry Skinner, M.D., Phila., Pa.

Pamphila carolina n. sp.—Male expands one inch. *Upperside:* Superiors fuscous, with three small subapical yellow spots, the uppermost one is very small in comparison with the other two. There are two yellow spots about the middle of the cell, which are almost coalesced. There is a row of four yellow spots extending across the wing from about its middle nearly to the interior margin. The inner third of the wing to the base is dusted with yellow scales. Inferiors immaculate (two specimens have traces of yellow spots). *Underside:* Superiors. The spots above are repeated, but are not nearly so well defined, and there is a distinct costal edging of brownish yellow. Inferiors brownish yellow, distinctly spotted

with dark brown dots. The body above is concolorous with the wings. The antennæ are distinctly annulated, and the club beneath is entirly yellow, except the tip. Body and palpi below are same color as the wings.

The credit of turning up this new and interesting species is due to Mr. F. M. Jones, of Wilmington, Del. Mr. Jones says regarding the species: "They were captured about one-half mile south of Hamlet, Richmond County, North Carolina, on the border of a small cane-brake. They were not met with on flowers or in the grass, but sat on the leaves of the canes which bordered the road, and when alarmed flew with great swiftness. Two were taken August 23d, and the remaining two in the same locality several days earlier. This species does not seem closely allied to anything else, but will probably fall into the group containing *fusca*, *eufala*, *osyka*, etc. The spotted character of the underside of inferiors distinguishes this species from all others.

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ENTOMOLOGIZING ON MOUNT WASHINGTON.—Part I.

By R. Ottolengui, M.D.S., New York.

On the morning of August 5th I started from Jefferson, N. H., with my friend, Mr. Walter Perkins, of Manchester, en route for the summit of Mount Washington. The train left at 7.45, at which hour all the mountain tops were heavily clouded in. As the skies were clear in all other directions we hoped that old Sol would dissipate the mists ere we reached our destination. Besides, it was Friday, and every one knows that Friday is a lucky day upon which to start on an expedition. At least it has been so with me. By the time we left Fabyan's on the curious observation train that goes from there to the base, the weather was still more promising. The grade on this road is very steep, so that the train does not travel at lightning speed. I make this statement that my next may be believed. All along the road *Argynnis atlantis* were extremely numerous. At times as the train whirled by they rose in flight dozens in a group. This tempted me to try catching insects from a moving train. Leaning from the window with my net in readiness, I made a swoop upon the next group that arose and imprisoned five. I had the same experience last year, so that I can safely say the place for this insect is along the road from Fabyan's to the base. Other but-

terflies I noted, too, so that I have no doubt that a walk along the rails would be interesting to the collector.

Boarding the train for the summit, we started up Jacob's Ladder, seated upon the front platform, legs dangling, and eyes on the watch for any straggler that chanced within reach. I took insects in this way last season, but this year nothing came close enough, though *A. atlantis* and *V. milbertii* were numerous.

There be men, who, finding a good spot for collecting a special rarity, keep the knowledge well locked up in their secret souls for fear, perhaps, that others may go there and get a share of the good things. My main object in writing this is to tempt some other collectors into the charming region, and to describe accurately the most prolific hunting grounds, based upon two different season's experience.

Just before reaching the hotel the train stops at a water-station, possibly a quarter of a mile below. If the collector intends to return to the base the same day, he will have but three hours or thereabouts for work. He would best leave the train at this point rather than go to the summit and waste half an hour for dinner. Having his luncheon with him, he may eat it immediately. He should have his hunting cup, and can get water from a trough that leads pure brook water, icy cold, down to this point for the use of the workmen. This meal will not occupy more than ten minutes, when all is ready for the chase. I may now continue the story of my own expedition.

Leaving the water-station we worked our way southward, following the railroad till it turns for the final ascent, at which point we continued in a direct line, aiming to cross the carriage road, and descend the cliffs on the other side. We did this because we had learned that the heaviest winds seem to be on the north side of the mountain. The *C. semidea* is hard to see among the rocks, often resting flat upon their lichen-stained sides, which they closely resemble. When disturbed they start up, and, being feeble flyers, are readily wafted away by the winds, sometimes being carried out of sight, and seldom less than a hundred yards. One might follow a butterfly that distance across a smooth meadow, but would scarcely undertake it across Washington's rocks.

Crossing the carriage road, one finds a wall built up to mark the road in misty weather and keep the horses from plunging

down the abyss. Climbing over this wall and descending from rock to rock, the winds are soon milder and the hunter is protected from them by the steep side of the mountain rising sheer above him.

On this trip we scarcely hoped to find many of the *semidea*, fearing that with July they ceased to exist. This idea was soon dissipated, for within half an hour we had taken about fifty. Suddenly a heavy cloud rolled down upon us, having approached the mountain from the north and topping its summit then extended downward towards the southern valley. At once my friend was lost to sight. We knew that it would be useless to hunt any longer in the face of the rising storm, and moreover, that it would be wise to get to the summit quickly. Exchanging our signal halloo frequently we started up. It is the easiest thing in the world to get lost in the mists of Mount Washington, for one crag is exactly like another, and only the oldest guides can recognize landmarks. But where we were we were safe, for we both knew that less than a hundred yards above was the carriage road, and that between us and it was a continual ascent. The rule was simple. Keep climbing up. Half-way down the mountain this would not hold, for paradoxical as it seems, ascent includes many a descent. One must climb up and down each spur, and they all look amazingly alike.

We reached the hotel in safety, and having determined to remain over night we went in to dinner. The rest of that day was spiritless and uninteresting as the mists grew thicker. Our hopes of hunting moths by light vanished in the impending gloom, consequently we retired at 7.30 to be ready for an early start if the morning should prove propitious.

At five we were up and watching the grandest sight that either of us had ever seen. After a night of storm the sun rose above the clouds and soon dissipated the upper stratum, so that with a bright dome of blue above we looked down upon a sea of clouds that shrouded in every mountain peak and all the valley in every direction. Stretched before us there seemed to be one long sea of ice, such as one imagines to exist in the Arctic regions.

At seven we started down the carriage road walking, and in search of *A. montinus*. Of this insect Dr. Scudder says: "Perhaps no collector has ever seen more than eight or ten in a whole day's scramble." At two miles and a half down the carriage

road we reached the zone of dwarf pines, and also entered the clouds which we had admired all the morning. When amongst them so that they shut out the sun, our admiration dwindled. Up to this point we had taken scarcely any thing, being more bent upon reaching our destination than upon collecting. I did capture a single specimen of *Anarta schœnherri*, however, which pleased me, because I had seen so many, all of which eluded me. This little gray noctuid would start up from a rock by the way, and with rapid flight made more swift by the strong winds, would disappear almost before one realized that he had seen a "specimen."

Notes on a small Collection of Formicidæ from Jamaica, W. I.

By WILLIAM J. FOX, Phila., Pa.

The species enumerated herein were collected in Jamaica during April and part of May, 1891, by Mr. Charles W. Johnson, of the Wagner Free Institute of Philadelphia, and myself. Ants were exceedingly scarce during our visit, which accounts for the smallness of the collection. The discovery of a species new to science, among so few species, shows what a broad field there is to the student of these interesting insects in Jamaica. For the identification of the species my thanks are due to the distinguished myrmecologist, M. Ernest André.

1. *Camponotus fumidus* Rog. Common everywhere under stones and logs. 2. *Formica rufipes* Fab. Port Antonio, on flowers; common. 3. *Odontomachus hæmatodes* Linn. This species was common on the south side of the island in the vicinity of Kingston, but it disappeared entirely on the north side, at least in the Parish of Portland. 4. *Monomorium carbonarium* Sm. Common at Kingston, infesting houses. 5. *Pheidole fallax* Mayr. Common at Kingston; found elsewhere by us. This species seems to take the place of the common "pavement-ant" of the North, *Tetramorium cæspitum*, making its nests in precisely the same sort of places as that species. 6. *Cyphomyrmex reformis* Sm. Near Kingston; numerous specimens. 7. *Cyphomyrmex foxi* André, n. sp. Near Kingston; numerous specimens. 8. *Rhopalothrix simoni* Emery. Near Kingston; numerous specimens. A new locality for this species, which was described from Venezuela.

ON THE SO-CALLED THROAT BOT.

By C. H. Tyler Townsend, Las Cruces, N. Mex.

On May 15, 1892, I took a female *Gastrophilus* which was flying at the throat of my horse. The animal manifested unusual signs of uneasiness, and I noticed the fly alight several times, always exactly in the region ventrad of the first cervical vertebræ. This is the so-called throat bot (*Gastrophilus nasalis* Lin.) of whose habits but little seems to be certainly known in this country.

G. nasalis is easily distinguishable from *G. equi* by its clear wings, dark abdomen, and slightly smaller size. It is quite a pretty species, with rust-colored pile on the scutellum and on the the scutum on each side posteriorly.

Brauer says (Mon. Oestr. 60) that "according to Dr. Green *G. nasalis* deposits its white eggs in the region of the throat of the horse." The same author says of the larva (l. c. 89): "The larvæ live, according to Schwab, massed together [in Haufen gedrängt] in the duodenum of the horse near the pylorus [Pförtner], seldom in the stomach. They pass out with the excrement of their host and never hang fast to the sphincter internus." Nothing more is said by Brauer of oviposition or habits of larvæ.

Schiner (Fauna Austr. Dipt. i, 391–2) says that "the larvæ live in the intestines of the horse." He also records having bred specimens "from pupæ which were dropped in horse-dung."

Brauer says in his monograph that it was at that time not certainly known from America, but suggests *Gastrus subjacens* Walker from Nova Scotia as a synonym. This synonymy is confirmed by Osten Sacken (Cat.), who saw specimens in the British Museum. Beside the above-mentioned specimen from Las Cruces, N. Mex., I have two others from Kansas labeled "throat bot, Sept." Osten Sacken (Cat.) says that he has seen specimens from New York, Utah and Kansas.

The peculiarity of the habits of this species in flying always at the throat of the horse, with the apparent intention of oviposition, is not clear. If, like *G. equi*, the eggs are swallowed, why are they deposited in a place so inaccessible to the mouth of the horse? The animal certainly cannot get at them to swallow them himself, nor have I ever seen horses biting each other in this region of the neck. It would be absurd to suppose that the animal could rub his throat on his fore legs in any way so as finally to get the eggs into his mouth.

So far as I can determine, nothing is known regarding the method of entrance of the eggs or larvæ, into the intestine of the horse. Though I have not found the eggs, I am forced to believe, from the actions of the female fly, that they are actually deposited on the ventral surface of the throat. The habit seems explicable only on the supposition that the larvæ hatch where the egg is deposited, and, while young, burrow through into the œsophagus and are thus swallowed.

ENTOMOLOGICAL NEWS.

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PHILADELPHIA, PA., NOVEMBER, 1892.

THE NEWS FAMILY.—It may prove useful, as well as of interest, to the readers of the NEWS to know how the journal is managed, and who does the work. The editor has lately been receiving credit not his due, and desires to state to whom it is due for some of the work done for subscribers. The entire business management of the journal is conducted by Mr. E. T. Cresson, who also gives valuable assistance as a member of the Advisory Committee. The success of the Department of Literature is to be credited to Mr. P. P. Calvert, who devotes considerable time each month to this work, going over the literature that comes to the Academy and sifting out all that is of interest to the entomologist. Prof. John B. Smith is to be thanked for looking after the Economic Department. Mr. Charles Liebeck names all the Coleoptera sent to the Department of Identification of Insects, and when needed has the assistance and advice of Dr. Horn, who also looks over all the papers on Coleoptera. Mr. Chas. A. Blake, an honored member of the Advisory Committee, superintends the Mailing Department, and advises the printer when necessary. Mr. Calvert names all the Neuroptera sent to the Identification Department; Mr. C. W. Johnson the Diptera; and Mr. Wm. J. Fox looks after the Hymenoptera and remaining orders, except Lepidoptera. All these gentlemen do the work as a labor of love, and spend much valuable time on it.

NOTICE.—Those who wish to continue their subscriptions to ENTOMOLOGICAL NEWS for the coming year, will please indicate their desire to the Treasurer **before** January 1st next. **No change in price.** We trust that **all** will want to renew, and thus show their appreciation of the gratuitous work of those conducting the publication.

DEPARTMENT OF ECONOMIC ENTOMOLOGY.

Edited by Prof. JOHN B. SMITH, Sc. D., New Brunswick, N. J.

Legislation against Injurious Insects.—In "Garden and Forest," No. 240, for September 28, 1892, is a very timely editorial on "Legislation against Injurious Insects and Plant Diseases." The matter is already an important one, and is bound to grow more important as knowledge of preventive and remedial measures increases. It is discouraging to the intelligent agriculturist to find, that however well he follows directions and keeps down insect pests on his own land, year after year, he gets no *permanent* result, because his next door neighbor, who does not spray, supplies him annually with an overplus from his land. There is a manifest injustice in this. If the careless or ignorant farmer alone suffered from the consequences of his carelessness or ignorance, one might say "serves him right," but the trouble is, that insects have a habit of moving about, and where there are more than enough on one piece of land, they are no respecters of boundary lines, but cross over into the well-kept and well-cared for acres without hesitation. Where it is possible to poison the insects as they arrive, it simply imposes extra work and extra expense on the man who protects his crop; but sometimes, though an insect may be easily controlled, it cannot be reached until *after* the injury has been done.

A case in point is the red necked Blackberry Cane borer, *Agrilus ruficollis*. By cutting out the galls early in Spring, when trimming, and burning the cut wood, the entire brood of insects can be easily destroyed and future injury prevented. But, if a neighbor allows the insects to develop on his land, the beetles cannot be prevented from coming over and ovipositing in the canes of the clean patch. The beetles cannot be poisoned, for they feed very little. The larvæ cannot be reached, because they are internal feeders. Every infested cane means the loss of next year's crop from that cane, and the careful man is helpless. In an infested field, unless radical measures are taken, the crop becomes smaller each year, until it is no longer worth picking. Then it is often left another year, just to see whether it will do anything, and, finally, after all the insects have hatched the canes may be plowed out. I have seen in Atlantic County, New Jersey, early in September, acres of blackberries in which ninety per cent. of the canes were infested, and in some cases from ten to twelve galls were on a single cane. Such fields are plague spots, and

should be dealt with as such. Too much legislation is not an unmitgated blessing, but some means of redress against ignorant carelessness is imperative.

Caterpillars Injurious to Sugar Beets.—Bulletin No. 24 of the Agricultural Experiment Station of Nebraska contains "Notes on certain Caterpillars Attacking Sugar Beets," by Lawrence Bruner. Mr. Bruner, in this Bulletin, mentions two species of *Eurycreon* as having appeared in injurious numbers. One of them is the well-known *E. similalis*, the other is —well, Mr. Bruner has, somehow, omitted giving a name to the other. This omission is supplied in a note by the editors of "Insect Life," vol. v, p. 55, where it is stated that it will probably prove to be *E.* (*Loxostege*) *sticticalis* Linn. A curious fact is, that the form heretofore unknown, has now appeared in the greatest abundance, and is the more injurious. Mr. Bruner gives a general resumé of the life-history of the species, a list of the more common food-plants, cultivated and wild, and suggestions as to remedial measures. Of these, among others, he says: "Other natural remedies can be brought to work against these insects' increase. The chief one of these is the keeping down of certain weeds upon which the caterpillars naturally feed." He then enumerates a number of these weeds, which enumeration need not be repeated here. The main point is in the recommendation to keep down weeds, and it is another proof of the importance of Farm practice to control insect injury, an example of which was also given in the last number of the NEWS. Especially the Cruciferæ are noxious, because they nourish some of our most injurious species during the time the field crop is not available. Clean culture in the largest sense of that term is one of the most valuable measures at hand for the control of insect injury.

The Corn Bill Bug, etc.—Bulletin No. 18 of the Iowa Agricultural College Experiment Station, contains, among other things, "Reports on Injurious Insects," by Prof. Herbert Osborn and Mr. H. A. Gossard. The chief article is on the "Corn Bill Bugs," species of *Sphenophorus*, which have been injurious in Iowa during the past season. *S. ochreus* and *S. parvulus* were the troublesome species, while there is no mention of *S. sculptilis*, which has been the troublesome species in New Jersey for two or three years last past. Nothing new is added to either our knowledge of the life-history or of remedies.

Strawberry slugs were somewhat troublesome, and a short record of some experiments made against the larva of *Monostegia ignota* is given. The application of arsenites is recommended, even where the fruit is approaching maturity. From a sprayed plot—"Within a week after the application was made the assistant entomologist and other employés of the Department ate very heartily of the ripened fruit, with the intent of proving whether or not any ill effects would follow the freest use of the same. No injury, whatever, was experienced." All this premises a careful and intelligent use of the poison, and under such circumstances it can be used up to within a very few days of marketing fruit. Early in the season

I tried the experiment of eating heartily of currants which had been sprayed the day previously with a hellebore decoction made according to my directions. I am happy to say I felt not the slightest discomfort from the dose.

Plutella cruciferarum is also treated, and the arsenites are recommended.

The abundance of Grasshoppers during the Season.—In "Insect Life," vol. v, p. 57, the editors mention the abundance of grasshoppers in several eastern localities. In New Jersey there has also been an unusual abundance of Orthoptera, and especially in the southern parts of the State. Two days' collecting in Cape May County, early in September, was productive of a greater number of specimens and species than I had before taken in the State in any one year. Localities back of the shore, which, in ordinary seasons are swampy and inaccessible, were completely dried out in late Summer, and here the smaller Locustidæ abounded. *Acridium* was unusually abundant, four species being observed, two of them in great numbers. Of the cultivated crops, cranberries suffered more than others; late cabbages were badly injured in some localities, and other garden truck suffered to a less extent; field crops in general escaped.

The great abundance of these insects during the season has induced a somewhat careful study of them, the results of which will appear in a Station Bulletin some time during the month.

A Mosquito Remedy.—"An Experiment against Mosquitoes," is the title of an interesting paper read by Mr. L. O. Howard before the Association of Economic Entomologists at Rochester, and now published in "Insect Life" vol. v, p. 12. He finds that a very small quantity of kerosene on the surface of pools will suffice to kill all aquatic larvæ, including those of the mosquito, and will also kill the female mosquitoes attempting to oviposit. The length of time for which the kerosene remains active, is a matter of some surprise. Mr. Howard did not get the Lamborn prize for saying in the most round-about way that cultivating dragonflies would not answer to destroy mosquitoes, but he has done better, and has made an experiment, the practical value of which cannot yet be estimated. He has proved that under some circumstances it is quite possible to prevent breeding, by mosquitoes, and even to destroy the adults themselves.

Peach Yellows.—Mr. Patton's note on Peach Yellows, in the April number of the NEWS, is evidently based on a misconception, and on ignorance of the voluminous literature of the subject. The "Yellows" is undoubtedly a specific disease of an extremely obscure character, and in no way to be attributed to insect injury. Mr. Patton's note should never have been written.

SUBSCRIBERS sending insects for identification will please put locality labels on their specimens.

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

[The Conductors of ENTOMOLOGICAL NEWS solicit, and will thankfully receive items of news, likely to interest its readers, from any source. The author's name will be given in each case for the information of cataloguers and bibliographers.]

To Contributors.—All contributions will be considered and passed upon at our earliest convenience, and as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for certain issue. Owing to low subscription rate, "extras" will be charged for, and when they are wanted, it should be so stated on the MS. along with the number desired. The receipt of all papers will be acknowledged.—ED.

IN the September number of ENTOMOLOGICAL NEWS I find the following: "*Citheronia sepulcralis* is found from Pennsylvania southward." It may be interesting, therefore, for me to report that my friend, Mr. David W. Perkins, of Manchester, N. H., took four specimens of this moth in 1890 in that city, and again captured two this season. Of the six, two were females. They were taken in early morning resting on white houses near electric light poles.—R. OTTOLENGUI, New York.

THY. POWESHIEK.—Female caught and confined July 25th. Within two days twelve eggs were laid. The eggs are smooth, shiny, in color a light green. They are hemispherical in shape, with the edges of the base rounded. By the aid of a medium powered microscope a slight depression can be seen at the apex; size is about two-thirds that of egg of *P. manaataqua*. Larva hatched July 28th. Head of young larva is large, prominent, light brown in color. Body is light yellow sprinkled with a few scattering hairs. Hairs on thirteenth segment very prominent. On each side of the back is an irregular row of fine dark points. Each segment contains four. The two near the front of segment nearear together than those of the back.—HENRY G. WILLARD, Grinnell, Iowa.

VENTURESOME BUTTERFLIES.--During the present season I have been quite struck by the actions of two species of butterflies. The first, *Pyrameis atalanta* L. was observed to appear singly in the small, shady lawn in front of my house, usually about 4.30 to 5 P.M. Whether the same individual appeared each day, or whether there were several similarly inclined, I am unable to say, but only on one occasion did more than one individual appear on the same day. They, or it as the case may be, seemed to be entirely devoid of fear, flitting about, alighting sometimes on my shoulder, or often on my book as I sat reading. If driven off it would return, either to its former position on the back of my chair, or, more than once, alighting on the heads of my two little sons, aged seven and three years, as they were at play, much to their astonishment, and, in the case of the younger, consternation.

The other case was at Niagara Falls. Standing among the rocks, just beneath Prospect Point, I saw what, from the moment's observation I could give it, appeared to be *Pieris rapæ* hover for the moment in mid air then boldly dash forward and disappear in the mist and spray. I watched for several minutes to see if it would again emerge from its vapor bath, but watched in vain. It seemed to have deliberately committed suicide.—F. M. WEBSTER.

MIMICRY IN MOTHS.—Round about my house is a tangled shrubbery of stunted brushwood, with here and there a silver birch, young beech and Scotch fir, and in one corner stands an old outhouse, where a pipe is good at all seasons, says a writer in the "Nineteenth Century." It is half in ruins, and while there one day I noticed that the dingy old brown and gray wall was spotted with oddly-shaped blotches of a darker tint that looked like damp. That same evening, however, I found that the blotches had disappeared, though more rain had fallen and the roof was full of holes. The next day they had all come back. When this had happened a second time I looked more closely at the strange marks, and, to my surprise, I found them to be living creatures, small moths, in fact, with folded or outspread wings, clinging fast on to the crumbling wall. From dusk until dawn they had been out on the wing in the fields and woods—their chief enemies, the birds, being asleep—but at daybreak came back to their old place of safety. The shrubbery was dangerous because the ground was thickly covered with green ivy and still greener periwinkle and moss, where sparrows, finches and tits were always hunting for food, and they would have been soon snapped up. On the old weather-stained wall they were safe.—*Public Ledger*.

RAVAGES OF WHITE ANTS.—A statement by the British Vice Consul, Mr. Warburton, at La Rochelle, reminds us of the terrible ravages of the *Termites*, known as "white ants." It appears that many of the public buildings and private houses of La Rochelle are being destroyed by these pests. Introduced from some tropical land about a century ago, the ants had for a long time kept to a particular part of the town; but on the demolition of some of the houses there, the old wood was allowed to be carried away, and the insects are now found in every part of La Rochelle. In many buildings it is necessary to introduce iron supports, to save them from tumbling into ruins. Linnaeus spoke of these ants as "the great calamity of both the Indies." Wood is their favorite diet, and the only timber safe from them is teak wood (*Tectona grandis*) and iron wood (*Sideroxylum*). They tunnel through the vastest beams of buildings in every direction, leaving a thin layer untouched on the outside, and even coating the outside with clay to conceal their ravages in the interior. Humboldt says that in South America it is rare to find papers of any antiquity. In one night, everything left exposed, even boots and shoes, disappear. Ships are sometimes reduced to a condition sufficient to account for "foundering at sea" during a voyage. The "Albion" man-of-war had to be broken up, after reaching England with difficulty, by being

lashed together. If they settle elsewhere in Europe, as they have done at La Rochelle, a new peril will be added to life and civilization.—*Leisure Hour.*

We have received the following account of Prof. Townsend's entomological excursion during the past Summer: We left Last Cruces June 12th with four-horse team and covered government ambulance wagon. Crossing the Rio Grande at Rincon, we drove northwest through Cuchilla Negra, the length of the Cañada Alamosa, and on to Luera Spring. Here we turned west, crossed the Continental Divide, passed between the San Francisco and Datil ranges, and arrived in Springerville, Ariz., June 24th. From this place we drove north, followed down the Little Colorado River as far as the "San Francisco Wash," passing through Holbrook and Winslow on the way, and arrived in Flagstaff July 1st. By previous arrangement we were joined here by Prof. Toumey, of Tucson, and Mr. Cordley, of Washington, who had a similar outfit to our own, and together we proceeded to the Hance place on the rim of the Grand Cañon, seventy miles north of Flagstaff. Mr. Cordley and myself spent four days and nights down in the cañon collecting, about 4000 to 6600 feet below the rim. Returning, we spent two days collecting and climbing the San Francisco Mountain, the top of which is about 13,000 feet above sea level. We parted from Prof. Toumey and Mr. Cordley at Flagstaff, visited the petrified forest southwest of Navajo Springs, followed up the Zuni River, spent three days in the Pueblo, visited Inscription Rock, and returned by the Rio Grande Valley to Las Cruces, August 14th. The whole trip amounted to a drive of over 1200 miles. My companions were a fellow-professor and one of our students. About 1100 specimens of insects were collected by myself, representing nearly one-third that number of species. These were all pinned and labeled in the field. There was collected besides a considerable amount of alcoholic material and galls. I am preparing some papers on the results of the collecting in the Grand Cañon, and on the San Francisco Mountain, which will be published in due time.

It may interest you to know that the first scientific organization in New Mexico has just come into existence. It is known as "The New Mexico Society for the Advancement of Science," and will meet once a month in Las Cruces. The following officers have been elected for the remainder of the current year: President, C. H. Tyler Townsend; Vice-President, F. C. Barker; Recording Secretary, E. O. Wooton; Corresponding Secretary, Arthur Goss; Treasurer, H. D. Bowman; Members of Executive Committee, A. E. Blount and J. P. Owen. The Society hopes to publish an annual numero of its proceedings.—C. H. Tyler Townsend.

A Flight of *Danais archippus* Fabr.—The *Cleveland* (Ohio) *Daily Press* of Sept. 21, 1892, states that on the 19th inst. in the afternoon, "a multitude of butterflies visited Cleveland on their way South. There were swarms upon swarms of them, and for a while they completely filled the air. They were of the large, brown variety, of the milkweed butter-

fly, and it is supposed that they were started by the storms in the East. Such migrations, though not unusual in the South and West, are very uncommon in this part of the country."

This species has been exceedingly abundant in northern Ohio, and I think in northern Indiana, this present season. At Wooster, Wayne Co., fifty miles S. S. W. of Cleveland, they were not universally abundant on the date indicated. The day was warm and pleasant, and, if I remember correctly, with little wind.—F. M. WEBSTER, Wooster, O.

TRANSACTIONS of the American Entomological Society, vol. xix (1892), pp. 129–256 inclusive, have been printed since our June issue, and contain the following papers: The N. American genera of Calyptrate Muscidæ, Paper II, by C. H. T. Townsend. The N. American genera of Nemocerous Diptera, by C. H. T. Townsend. Preliminary Notes on some African Odonata, by P. P. Calvert. On the Pselaphid genus Trimium, by E. Brendel. Revision of the species of Anthrax from America North of Mexico, by D. W. Coquillett. Descriptions of North American Harvest-Spiders (Phalangiidæ), by C. M. Weed, 7 plates. The Eumolpini of Boreal America, by G. H. Horn. Monograph of the N. American species of Tachytes, by W. J. Fox, 1 plate. A synopsis of the subfamilies and genera of the Membracidæ of N. America, by F. W. Goding.

Identification of Insects (Imagos) for Subscribers.

Specimens will be named under the following conditions: 1st, The number of specimens to be unlimited for each sending; 2d, The sender to pay all expenses of transportation and the insects to become the property of the American Entomological Society; 3d, Each specimen must have a number attached so that the identification may be announced accordingly. Exotic species named only by special arrangement with the Editor, who should be consulted before specimens are sent. Send a 2 cent stamp with all insects for return of names. Before sending insects for identification, read page 41, Vol. III. Address all packages to ENTOMOLOGICAL NEWS, Academy Natural Sciences, Logan Square, Philadelphia, Pa.

Insects have been named for F. D. Twogood, A. A. Wright, Frank H. Johnson, A. G. Weeks, Jr., D. B. Young, Charles U. Clark, James S. Hine, W. T. Davis, M. V. Slingerland, J. H. Bomberger, C. H. Tyler Townsend, Henry Bird, C. M. Weed, George Miller, W. M. Hill, C. B. Aaron.

Entomological Literature.

ANNUAL REPORT OF THE MAINE STATE COLLEGE AGRICULTURAL STATION, 1891.—Bangor, 1892. Pp. 187–207, Report of the Entomologist, F. L. Harvey.

THE ENTOMOLOGIST'S RECORD, London, Sept. 15, 1892.—The genus *Acronycta* and its allies (cont.), Dr. T. A. Chapman.

A Monograph of Oriental Cicadidæ by W. L. Distant. Published by order of the Trustees of the Indian Museum, Calcutta. London, Calcutta and Berlin. Pt. vi, pp. 121–144, 2 plates,* July, 1892.

ANNALS AND MAGAZINE OF NATURAL HISTORY (6), x, 57, London, September, 1892.—Spiders from Madeira,* C. Warburton, 1 pl. On *Eretmotus* and *Epiechinus* (Histeridæ),* G. Lewis, 1 pl.

MITTHEILUNGEN AUS DEM NATURHISTORISCHEN MUSEUM IN HAMBURG, ix, 2, 1892.—Hemiptera collected by Dr. F. Stuhlmann in East Africa,*† Dr. A. Gerstaecker.

LE NATURALISTE, Paris, Sept. 15, 1892.—The first stages of *Erebia melas*, P. Chretien. The parasitic fly of *Acridium peregrinum*, the wandering locust, M. Decaux. New nocturnal Lepidoptera,* P. Thierry-Mieg. The mouth and buccal organs of Arthropods, R. Saint-Loup.

IOWA AGRICULTURAL EXPERIMENT STATION.—Bulletin No. 18, Des Moines, Iowa, August, 1892. Reports on injurious insects, H. Osborn and H. A. Gossard.

AMERICAN NATURALIST, Philadelphia, October, 1892.—Habits of *Prenolepis imparis*, the Winter Ant, W. H. Patton. *Aphænogaster fulva* ♀, id. Chinch bugs in New Hampshire, C. M. Weed.

TIJDSCHRIFT VOOR ENTOMOLOGIE, xxxiv, 1–4, Hague, 1891.—Contribution to the beetle fauna of Madagascar,* C. Schaufuss. List of the Ants and Ant guests of Dutch Limburg, E. Wasmann. *Danais chrysippus* n. var., P. C. T. Snellen, 1 pl. Revision of the Rhaphididæ,* H. Albarda, 10 pls. (includes and figures N. American species). Some exotic Diptera,*† F. M. van der Wulp, 1 pl. On new or little-known Australian Longicornia,*† J. R. H. N. van de Poll. Lepidoptera from Flores,* P. C. T. Snellen. Contribution to the knowledge of the Indo-Australian Lepidopterous fauna,* J. Roeber. Catalogue of Dutch Hemiptera, v, A. J. F. Fokker.

PROCEEDINGS OF THE LINNEAN SOCIETY OF NEW SOUTH WALES, vi, 2–4, Sydney, 1891–92.—On Queensland and other Australian Lepidoptera,* T. P. Lucas. Notes on Australian Coleoptera, x,* Rev. T. Blackburn. Revision of the Australian Lepidoptera,* v, E. Meyrick.

TRANSACTIONS OF THE ROYAL SOCIETY OF SOUTH AUSTRALIA, xv, 1, Adelaide, July, 1892.—New South Australian Lepidoptera,* O. B. Lower. New genera and species of Australian Coleoptera,*† Rev. T. Blackburn. The Phaneropteridæ of Australia and Polynesia,*† J. G. O. Tepper.

LEPIDOPTEREN VON MADAGASCAR,*† Herausgegeben von M. Saalmueller. Angefangen von dem Verfasser und nach dessen Tode abgeschlossen durch L. von Heyden. Zweite Abtheilung. Heterocera: Noctuæ, Geometræ, Microlepidoptera. Frankfurt a. M. Moritz Diesterweg, March, 1891, pp. 249–531; pls. vii–xiv.

* Contains new species other than North American. † Contains new genera.

BULLETIN DE LA SOCIETE PHILOMATHIQUE DE PARIS (8), iv, 2, 1892.—Observations on the buccal pieces of Araneids, P. Gaubert.

PROCEEDINGS OF THE ZOOLOGICAL SOCIETY OF LONDON, 1892, 2; August 1.—On stridulation in certain Lepidoptera, and on the distortion of the hind wings in the males of certain Ommatophorinæ, G. F. Hampson. On the Orthoptera of the Island of St. Vincent, West Indies,*† C. B. v, Wattenwyl and Prof. J. Redtenbacher, 3 pls. New species of Lepidoptera Heterocera from Brazil, Mexico and Peru, i, W. Schaus.

TRANSACTIONS OF THE AMERICAN ENTOMOLOGICAL SOCIETY, xix, Philadelphia, August, 1892.—Monograph of the North American species of *Tachytes*, W. J. Fox, 1 pl.

PROCEEDINGS OF THE UNITED STATES NATIONAL MUSEUM, xv, pp. 361–369, Washington, D. C., 1892.—Insects of the subfamily Encyrtinæ with branched antennæ, L. O. Howard, 2 pls.

INSECT LIFE, v, 1, Washington, September, 1892.—Rose saw-flies in the United States, C. V. Riley, figs. An experiment against mosquitoes, L. O. Howard. Occurrence of *Bucculatrix canadensisella* Chamb. on birches in Rhode Island, A. S. Packard, figs. New injurious insects of a year, C. V. Riley. Notes on the larva of *Amphizoa*, H. G. Hubbard, figs. The Dipterous parasite of *Melanoplus devastator* in California, D. W. Coquillet. A new sweet potato saw-fly (*Schizocerus privatus* Norton), C. L. Marlatt, figs. On the nomenclature and on the oviposition of the bean weevil (*Bruchus obtectus* Say), Eds. Notes on the habits of some species of Coleoptera observed in San Diego County, California, F. E. Blaisdell. Biologic notes on New Mexico insects, C. H. T. Townsend. Further notes on the new Herbarium pest, C. V. Riley. The Australian enemies of the red and black scales, Eds.

CENTRAL EXPERIMENTAL FARM, Department of Agriculture, Ottawa, Canada, Bulletin No. 14, September, 1892.—The Horn Fly, J. Fletcher, figs.

THE ENTOMOLOGIST'S MONTHLY MAGAZINE, London, October, 1892.—*Elenchus tenuicornis* Kirby, parasitic on a Homopterus insect of the genus *Liburnia*, E. Saunders. Notes on *Elenchus tenuicornis* Kirby, with illustrations, Rev. A. E. Eaton, etc.

THE ENTOMOLOGIST, London, October, 1892.—Life-history of *Carterocephalus palæmon*, F. W. Frohawk, etc.

NATURE, London, Sept. 29, 1892.—*Peripatus* rediscovered in Jamaica, M. Grabham and T. D. A. Cockerell. *P. jamaicensis* n. sp., p. 514.

ANNALES DE LA SOCIETE ENTOMOLOGIQUE DE BELGIQUE, xxxvi, 9, Brussels, September, 1892.—Some ants of the Mediterranean fauna,* A. Forel. The male of *Cardicondyla* and the perpetuated consanguinous reproduction, id.

* Contains new species other than North American. † Contains new genera.

A PARTIAL CATALOGUE OF THE ANIMALS OF IOWA represented in the collections of the Department of Zöology and Entomology of the Iowa Agricultural College. Prepared by Herbert Osborn. Ames, Iowa, 1892. Hymenoptera (three families), Lepidoptera, Coleoptera.

PROCEEDINGS OF THE IOWA ACADEMY OF SCIENCES for 1890–91, I, 2, Des Moines, 1892.—A new Cecidomid infesting Box Elder, C. P. Gillette. Egg-laying of the Apple Curculio (*Anthonomus quadrigibbus* Say), id. The gall-producing Cynipidæ of Iowa, id. On the Orthopterous fauna of Iowa, H. Osborn. Catalogue of the Hemiptera of Iowa, id.

ZOOLOGISCHER ANZEIGER, Leipsic, Sept. 26, 1892.—On the development of the eyes of the imago of *Vanessa*, H. Johansen. The physiological significance of the stinging apparatus, especially in the nymphs of Hymenoptera, C. Verhoeff.

SCIENCE, New York, Oct. 14, 1892.—Some thoughts on the phylogeny of the mole cricket, E. W. Doran. A wasp study, J. McN. Wright.

VIERTELSJAHRSCHIFT DER NATURFORSCHENDEN GESELLSCHAFT IN ZURICH, xxxvii, 2, 1892.—Researches on the digestive tract of *Gryllotalpa vulgaris*, J. Eberli, figs.

BIOLOGISCHES CENTRALBLATT, ERLANGEN, Oct. 1, 1892.—On biology of wild bees, F. v. Wagner. The international relations of *Lomechusa strumosa*, E. Wasmann.

ZOOLOGISCHER ANZEIGER, Leipsic, Oct. 3, 1892.—New and little-known laws of the biology of Hymenoptera, C. Verhoeff.

THE ANNALS AND MAGAZINE OF NATURAL HISTORY, London, October, 1892.—Descriptions of some new species of African Lepidoptera, W. J. Holland. Description of a new genus and species of African moths, A. G. Butler. On the noctuid genera allied to *Hypætra* Guen., id. Revision of the noctuid genus *Melipotis* Hüb., with descriptions of two new species, id. *Liphistius* and its bearing on the classification of spiders, R. I. Pocock.

DELAWARE COLLEGE AGRICULTURAL EXPERIMENT STATION, Bulletin No. xviii, Newark, Del., September, 1892.—The strawberry weevil (*Anthonomus musculus* Say), M. H. Beckwith, figs.

CANADIAN ENTOMOLOGIST, London, Ont., October, 1892.—Preparatory stages of *Calothysanis amaturaria*, D. S. Kellicott. Insects reared from galls on *Muhlenbergia mexicana*, F. M. Webster, fig. The elm leaf beetle (*Galeruca xanthomelæna* Schrank), J. B. Smith. The inhabitants of a fungus, H. G. Hubbard. The life-history of *Xenos*, id. Note on the species of *Acanthia*, H. Osborn. [The foregoing were read to the Entomological Club, A. A. A. S. at Rochester, Aug. 17–19, 1892.] New N. American Homoptera, E. P. Van Duzee.

* Contains new species other than North American. † Contains new genera.

ARCHIVES ITALIENNES DE BIOLOGIE, xviii, 1, Turin, 1892.—Note on a series of new excretory organs discovered in *Bombyx mori*, E. Verson.

ENTOMOLOGISCHE NACHRICHTEN, xviii, 19, Berlin, October, 1892.—On the naming of varieties of palæarctic Cicindelas, H. Beuthin. On the development of *Hemerobius subnebulosus* St., and on the change of coloring in Neuroptera, C. Verhoeff.

VERHANDLUNGEN DER K. K. ZOOL.-BOT. GESELLSCHAFT IN WIEN, xlii, 3, September, 1892.—The ant fauna of Bulgaria with biological observations,* Dr. A. Forel, 1 pl. Alpine gall-flies, Dr. F. Thomas, 2 pls., figs.

NEW SPECIES OF NORTH AMERICAN INSECTS DESCRIBED IN THE PRECEDING LITERATURE.

NEUROPTERA.

Rhaphididæ: *Rhaphidia assimilis* Albarda, Tijds. Ent. xxxiv, p. 144, pl. 8, fig. 23, Vancouver Is. *R. bicolor*, p. 152, pl. 9, fig. 24, Col. *Inocellia longicornis*, p. 169, pl. 11, fig. 32, Calif. *I. Hageni*, p. 171, pl. 11, fig. 33, Calif.

HYMENOPTERA.

Tachytes, 9 n. sp., U. S., Fox, Trans. Am. Ent. Soc. xix, pp. 234–52.

Encyrtinæ: *Pentacnemus* n. gen. Howard, Proc. U. S. Nat. Mus. xv, p. 366. *P. bucculatricis*, Mo., p. 366, pl. xlvii, fig. 1. *Tetracladia* n. gen. p. 367. *T. texana*, Tex., p. 367, pl. xlvi, fig. 1. *Calocerinus* n. gen. p. 368, for *Tetracnemus floridanus*.

DIPTERA.

Sarcophaga opifera Coquillett, Insect Life, v, p. 22, Cal.

Cecidomyia negundinis Gillette, Proc. Iowa Acad. Sci. I, p. 108, Iowa.

HEMIPTERA-HOMOPTERA.

Thamnotettix Smithi Van Duzee, Can. Ent. xxiv, p. 266, N. J. *T. longiseta*, p. 266, Col. *T. Gilletti*, p. 267, Col. *T. montanus*, p. 268, Brit. Colum., Col.

Doings of Societies.

ENTOMOLOGICAL SECTION OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA. Meeting held May 26th, Dr. Horn, Director, presiding. The Publication Committee reported in favor of the publication of a paper entitled, "Preliminary Notes on some African Odonata," by P. P. Calvert. Mr. C. S. Welles stated that in the latter part of March, 1892, he had captured a specimen of *Grapta vau-album*, and saw another one

* Contains new species other than North American.

a few days later on the edge of the woods, near his home at Elwyn, Pa. Mr. Martindale announced the capture of thirty-eight specimen of *Anthocharis genutia* by Dr. Skinner on May 9th, at Arcola, on the Perkiomen Creek. Dr. Horn exhibited a portion of his collection of the tribe Galerucini of the family Chrysomelidæ, and spoke of the work he had been doing on them.

Meeting held June 13, 1892, Mr. Ridings in the chair. Members present: Ridings, Laurent, Martindale, Welles and Skinner. Associates: Fox, Calvert and Nell. Mr. Laurent stated that on the 1st of May this year he started to rearrange his water beetles, and thought he would collect some fresh material and exhibited his captures very nicely arranged. One rare species, *ovatus*, was collected by two boys, who let some specimens go because they would not go in the collecting-bottle they had. All were collected in a short time, one whole day and four afternoons. In all, sixty-six species were taken, numbering about fifteen hundred specimens. Mr. Calvert mentioned having caught *Tetragoneura cynosura*, a rare dragonfly, on June 6th. He had collected a few specimens previously. It flies very high, and its flight is sustained for quite a period of time. It alights occasionally on the edges of woods and thickets. He exhibited specimens of the species and spoke of the characters of the family and its allies. Mr. Nell spoke of the scarity of Microlepidoptera, and Dr. Skinner said the late season had retarded insects in various parts of the West. Mr. F. Weber was elected an associate of the Section. Section then adjourned until September.

Meeting held Sept. 22, 1892, Dr. Horn, Director, presiding. Members present: Liebeck, Martindale, Skinner, Welles, Ridings. Associates: Johnson, Nell, Fox. Weber, Westcott, Haimbach and Dr. Castle. Dr. Horn exhibited two boxes of Galerucini, showing the results of his work on these beetles, and stated that the number of new species was but few, and that too much attention had been paid color values and too little to structure. The material shown will illustrate a coming paper on these insects. Mr. Nell stated that he had taken twenty-six specimens of *Pamphila leonardus* on September 4th, near Atco, N. J. They were found on boneset and iron weed. Dr. Skinner stated that he had received a number of full grown larvæ of *Papilio cresphontes* found on September 18th at Sellersville, Pa., on prickly ash. Mr. Westcott reported seeing *P. cresphontes* and *Callidryas eubule*, at Westville, N. J. Mr. Ridings spoke of the unusual number of *Catocala* moths seen in the city limits during the Summer. Mr. Martindale reported having collected 500 specimens of Lepidoptera in Indiana during a short visit to the State. Dr. Horn mentioned having lately received a new species of *Anophthalmus* from Kentucky. Mr. Martindale reported capturing 200 specimens of *Hemaris thysbe* in Chester County, Pa.

Dr. HENRY SKINNER, *Recorder*.

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